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IN THE SPECIFICATION:

The following Abstract has been inserted on a new page immediately following the claims:

--ABSTRACT

The present invention generally relates to extraction technology. More particularly, the invention relates, in one aspect, to an apparatus having disposable elements for carrying out liquid-liquid micro extraction and liquid-liquid-liquid micro extraction. In another aspect the present invention relates to methods for liquid-liquid micro extraction and liquid-liquid-liquid micro extraction, whereby a high enrichment of analyte in an acceptor solution is obtained. In yet another aspect, the invention relates to disposable devices for use in liquid-liquid micro extraction.--

IN THE CLAIMS:

1. (Amended) An apparatus for carrying out liquid-liquid micro extraction or liquid-liquid-liquid micro extraction, [with high enrichment, characterised in that it comprises] the apparatus comprising:

   a) a first container [for] adapted to receive a sample solution having volume Vs and containing a [with] dissolved [substance,] analyte[, to be analysed,];

b) a second container [arranged in] disposed within the first container, the second container [preferably a disposable container,] having permeable membrane walls, and adapted to receive an acceptor solution having [for an acceptor solution, having] volume Va, wherein:

1) the ratio of Vs to Va is [Vs:Va] $\geq$ 50; and

2) about 1 μl $\leq$ Va $\leq$ 50 μl[,] ; and

c) a stirring means [preferably a magnetic bar].

2. (Amended) The apparatus according to claim 1, wherein [characterized in that] the second container [for the acceptor solution] is a microporous hollow fiber [fibre].

3. (Amended) The apparatus [A method] according to claim[s 1 and] 2, wherein [characterised in that the container is a] the hollow [fibre of] fiber is formed from a [an active] polymer.

4. Claim 4 cancelled.

5. Claim 5 cancelled.

6. Claim 6 cancelled.

7. Claim 7 cancelled.

8. Claim 8 cancelled.

9. Claim 9 cancelled.

10. Claim 10 cancelled.

11. (Amended) A disposable [device for use in] liquid-liquid micro extraction device comprising [, characterized in that it has the form of] a sponge body having defined pore volume, the sponge body adapted for absorption of an [immobilized] acceptor solution [for an analyte from a volume of a sample solution].

12. (New) The apparatus of claim 1, wherein the stirring means is a stirring bar.

13. (New) The apparatus of claim 1, wherein the first container is a disposable container.

14. (New) A method of liquid-liquid micro extraction, the method comprising:

(a) providing an apparatus comprising:

(i) a first container adapted to receive a sample solution having volume Vs and containing a dissolved analyte;

(ii) a second container disposed within the first container, the second container having a permeable membrane wall, and adapted to receive an acceptor solution having volume Va, wherein:

1) the ratio of Vs to Va is ≥ 50; and

2) about 1 μl $\leq$ Va $\leq$ 50 μl; and

(iii) a stirring means;

(b) placing the second container in an acceptor solution to form an impregnated second container, wherein the membrane wall of the second container is impregnated with the acceptor solution and the acceptor solution is disposed in the second container;

(c) placing the impregnated second container in the first container, the first container containing a sample solution containing an analyte;

(d) stirring the sample solution until extraction equilibrium is established for the analyte in the sample solution and the acceptor solution to form an acceptor solution containing an enriched analyte; and

(e) removing the acceptor solution containing the enriched analyte from the impregnated second container.

15. (New) A method of liquid-liquid micro extraction, the method comprising:

(a) providing an apparatus comprising:

(i) a first container adapted to receive a sample solution having volume Vs and containing a dissolved analyte;

(ii) a second container disposed within the first container, the second container having a permeable membrane wall, and adapted to receive an acceptor solution having volume Va, wherein:

1) the ratio of Vs to Va is ≥ 50; and

2) about 1 μl ≤ Va ≤ 50 μl; and

(iii) a stirring means;

(b) impregnating the wall of the second container with a liquid that is immiscible with the sample solution and immiscible with the acceptor solution to form an impregnated second container;

(c) filling the impregnated second container with a volume of the acceptor solution;

(d) placing the impregnated second container in the first container, the first container containing the sample solution containing an analyte;

(e) stirring the sample solution until extraction equilibrium is established between:

(i) the sample solution and the liquid impregnated in the impregnated second container; and

(ii) the liquid impregnated in the impregnated second container and the acceptor solution;

thereby forming an acceptor solution enriched with analyte; and

(f) removing the acceptor solution enriched with analyte from the impregnated second container.

16. (New) The method according to claim 14 or 15, wherein the second container is a microporous hollow fiber.

17. (New) The method according to claim 16, wherein the microporous hollow fiber is made of a polymer.

18. (New) The method according to claim 15, wherein both the sample solution and the acceptor solution are aqueous liquids.

19. (New) The method according to claim 15, wherein the liquid impregnated in the impregnated second container is an organic liquid immiscible with aqueous liquids.

20. (New) The method according to claim 15, wherein the sample solution is an alkaline, aqueous biological sample and the acceptor solution is an acidified, aqueous liquid.